

Breast Cancer



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Introduction

I chose the topic of breast cancer because it has become such a major health concern. My mother had a lumpectomy done on one of her breasts this past spring, so breast cancer is a personal issue for my family. Fortunately, my mother is now fine, but I know that I need to take precaution for myself because I have a family history of breast cancer. I figured that I would learn a lot of information about how to stay healthy, how to get checked, and how to deal with a diagnosis of breast cancer by researching this fact sheet.

At my high school, a speaker came to talk to the senior girls in the school about breast cancer. She told us how prevalent breast cancer has become in the United States, and how important it is for young women to be informed about breast cancer. I thought that presenting this information to my public health class would be a great way to reach out to at least a handful of young women.

Section 1: Background and Problem Statement

- **Web site #1 Name:** Healthy People 2010
- **Web address:**
<http://www.healthypeople.gov/document/HTML/Volume1/03Cancer.htm>
- **Background Information:**
 - Healthy People 2010 discusses cancer as a whole topic, and then covers breast cancer just in terms of reducing the rate. Cancer is the second leading cause of death in the United States. The female breast was among the most common cancer sites for all ethnic groups in the United States. According to the graph provided by the American Cancer Society, the female breast is the number one leading site of new cancer cases – 182,800 new breast cancer cases were reported in the year 2000. For the same year, it was expected that 40,800 women in the United States would die from breast cancer. The CDC reported 27.9 breast cancer deaths per 100,000 females. There has been a recent decrease in the number of deaths from breast cancer in white females due to greater use of breast cancer screening. An even greater decrease in breast cancer deaths is expected after a delay of seven years. The Healthy People 2010 target is to decrease the number of breast cancer deaths by twenty percent. Cancer treatment accounts for more than half of all financial medical costs. Risk factors include age, family history, reproductive history, mammography densities, previous breast diseases, race, and being overweight.
- **Web site #2 Name:** BreastCancer.org
- **Web address:**
http://www.breastcancer.org/symptoms/understand_bc/what_is_bc.jsp
- **Background Information:**

- Cancer is an uncontrolled growth of cells; more specifically, breast cancer is “an uncontrolled growth of breast cells.” Malignant tumors are those that are potentially dangerous. Breast cancer is the presence of one of these malignant tumors that has developed in the cells of the breast. Most commonly, breast cancer begins development in the lobules (the milk-producing glands), or in the ducts (where breast milk passes through from the lobules to the nipples). Breast cancer can spread into the lymph nodes located in the underarm, next to the breast, and is then able to spread throughout the entire body. There are different stages of breast cancer; each stage refers to how far the cancer cells have spread from the site of the original malignant tumor. Breast cancer is the result of a genetic abnormality. However, in ninety percent of cases, this abnormality is not inherited; rather, it is due to the “wear and tear” of everyday life. This “wear and tear” includes such factors as pollutants, hormones, pesticides, smoking, alcohol use, obesity, and stress.
- **Web site #3 Name: Centers for Disease Control and Prevention**
- **Web address: http://www.cdc.gov/cancer/breast/basic_info/index.htm**
- **Background Information:**
 - The CDC surveys and researches breast cancer, and then creates community programs in support of breast cancer prevention and control. Breast cancer can affect men as well as women, though it is extremely rare in men (less than 1 case for every 100 cases of breast cancer). Risk factors for breast cancer can be related to use of certain substances; for instance, drinking more than one serving of alcohol per day or using oral contraceptives can increase one’s risk of breast cancer. Risk factors can also be related to a female’s age at certain life events. These factors include: being younger when you first had your menstrual period, starting menopause at a later age, and being older at the birth of your first child. Some possible warning signs include noticing a new lump in or change in shape of the breast or underarm, swelling of part of the breast, irritation or breast skin, pain in any area of the breast, or nipple discharge other than breast milk, including blood. Breast cancer is most often screened for with a regular mammogram, which is an x-ray of the breast. It can also be screened for with a clinical- or self-examination, which involves using the hands to feel for any abnormal lumps in the breast tissue. A breast ultrasound, MRI, or biopsy is used to diagnose breast cancer. Treatments vary and are often used in combination, depending on the stage of the breast cancer, and what is right for the individual. “Treatments include surgery, chemotherapy, hormonal therapy, biologic therapy, and radiation.”

Section 2: Research

Web site #1 Name: Archives of Internal Medicine

- **Web address: <http://archinte.ama-assn.org/cgi/content/abstract/166/20/2244>**
 - **I found this from Google Scholar**
- **Summary of the research:**

- Doctors Sherri Gorin, Julia Heck, and Suzanne Smith have conducted research regarding “Delays in Breast Cancer Diagnosis and Treatment by Racial/Ethnic Group.” It has been found that white women are most often diagnosed with breast cancer; however, it is minority women who have higher death rates from breast cancer. It is thought that this difference in mortality rates among racial groups could be due to the “timely initiation of treatment.” This study compared racial/ethnic groups in the areas of diagnosis, treatment, and clinical delay. The research looked at the billing claims from the outpatient and inpatient visits of 49,865 women diagnosed with breast cancer. The study found that women in the African American racial group experienced the greatest “delays in initial diagnosis and initiation of breast cancer treatment, relative to women of other racial/ethnic subgroups.” The doctors suggest that it is extremely important to reduce these delays because early action increases the survival rate from breast cancer.

- **Web site #2 Name: The New England Journal of Medicine**
- **Web address: <http://www.nejm.org/doi/full/10.1056/NEJMoa020989>**
 - **I found this from Google Scholar**
- **Summary of the research:**
 - This article is titled, “Twenty-Year Follow-up of a Randomized Study Comparing Breast-Conserving Surgery with Radical Mastectomy for Early Breast Cancer.” A study conducted twenty years prior to this one involved a randomized trial that compared “the efficacy of radical (Halsted) mastectomy with that of breast-conserving surgery” in 701 women. These women had been diagnosed with breast cancer, with tumors measuring two centimeters or less in diameter. 349 of the women underwent a radical mastectomy and 352 of the women underwent breast-conserving surgery followed by radiotherapy of the mammary tissue. Radical mastectomy is a surgical procedure that removes the breast, underlying chest muscle, and lymph nodes. Breast-conserving surgery, or “quadrantectomy,” is a newer surgical procedure that only removes the tumor and 2-3 centimeters of breast tissue that surrounds it (<http://breastcancer.about.com>). This study found that more women had a recurrence of a tumor in the same breast if they were in the group that underwent the breast-conserving procedure rather than the radical-mastectomy. However, “there was no significant difference between the two groups in the rates of contralateral-breast carcinomas, distant metastases, or second primary cancers.” It was found that the long-term survival rate was about the same for women in both groups. The researchers concluded that breast-conserving surgery should therefore be the treatment of choice, given that the woman has a relatively small breast cancer.

- **Web site #3 Name: National Center for Biotechnology Information**
- **Web address: <http://www.ncbi.nlm.nih.gov/pubmed/21048831>**
 - **I found this from PubMed**
- **Summary of the research:**

- (The previous article that I chose compared Mastectomies with Breast-Conserving Surgeries. I thought this would be a good follow-up article because it adds onto the same topic. *Once the choice of procedure is made, what are the effects?*)
- This research article is titled “Factors that Affect Patients’ Decision-Making about Mastectomy or Breast Conserving Surgery, and the Psychological Effect of this Choice on Breast Cancer Patients.” The Department of Medical Oncology at Dr. Lutfi Kirdar Research and Training Hospital in Turkey conducted this study. Breast-conserving surgery (BCS) is commonly used as primary treatment for breast cancer in its early stages. However, surgeries like this cause changes in body image, and as a result, symptoms of depression can occur after surgery. This study evaluates “factors that affect patients’ decision on surgery,” and investigates “differences in the level of depression after mastectomy or BCS in a population of Turkish patients.” Different psychological-evaluation methods were used to diagnose and evaluate severity of depression. It was found that women mostly chose mastectomy if they were over the age of fifty, had at least one child that they breastfed, and a positive family history of breast cancer. It was found that women tended to choose BCS if they sought a second opinion and/or further information regarding the procedure. Results showed that the mastectomy patients were somewhat more prone to depression. The researchers concluded that post-surgery breast cancer patients may experience depression that affects treatment and quality of life, so those patients should seek more information and communicate well.

Section 3: Statistics

- **Web site #1 Name:** Connecticut Department of Public Health
- **Web address:**
<http://www.ct.gov/dph/cwp/view.asp?a=3134&q=396512&dphPNavCtr=|47825|#50319>
- **Summary of the statistics:**
 - This Web site gave statistics on how breast cancer affects women in the state of Connecticut. Based on a pie chart of new cancer cases in women in the year 2004, breast cancer accounted for twenty-nine percent of the cancer cases. It was reported that from 2000-2004, Connecticut had the third highest rate of new cases of breast cancer in all of the United States. Another pie chart showed that breast cancer accounted for fifteen percent of cancer deaths in women in the year 2004. Based on a line graph of trends in new breast cancer cases, only 100 new cases of breast cancer per every 100,000 women were reported in the year 1973. The trend has since increased to 130 new cases of breast cancer per every 100,000 women, as reported in the year 2004. Another line graph showed that the number of deaths from breast cancer has decreased in the past thirty years, attributed to the prevalence of breast cancer screening; only about 25 out of every 100,000 women died of breast cancer in 2004. A bar graph showed that if breast cancer is detected at an early stage, almost 100 percent of cases meet the five-year relative survival; however, if detected at a late stage, only about twenty percent of cases meet the

five-year relative survival. These statistics tell us that breast cancer mainly affects the population of women, and the Connecticut population is one of the most affected in the United States. Over time, this problem is reportedly getting worse in terms of the number of new cases; however, it is getting better over time in terms of survival rates.

- **Web site #2 Name: American Cancer Society**
- **Web address:** <http://www.cancer.org/acs/groups/content/@nho/documents/document/f861009final90809pdf.pdf>
- **Summary of the statistics:**
 - The American Cancer Society published a document that details breast cancer facts and figures for 2009-2010. One of the bar graphs showed “Female Breast Cancer Incidence and Mortality Rates by Race and Ethnicity” in the United States. It showed that white women have the highest rate of incidence (123.5 women for every 100,000), while Asian American women have the lowest rate of incidence (81.6 women for every 100,000). A line graph showed that incidence rates of both Invasive and In Situ female breast cancer have increased over the past 30 years for women age 50 and over; however, for women age 49 and under, incidence rates have stayed pretty constant. A set of line graphs gave information on incidence rates by race according to the stage of the cancer. At the localized, or early, stage of breast cancer, African American women have a lower rate of incidence (about 60 per every 100,000 women) than women in all other races (about 80 per every 100,000 women). However, in the regional and distant stages of breast cancer, all races—including African American women—seem to have about the same rates of incidence (about 40 in the regional stage and about 10 in the distant stage per every 100,000 women). This document also gave statistics regarding incidence and mortality rates of breast cancer in males. In the year 2006, the rate of incidence of breast cancer in men was 1.2 cases per 100,000 men. The rate of mortality from breast cancer in men was 0.3 cases per 100,000 men. These statistics tells us that breast cancer can affect men as well as women; however, cases of breast cancer in men are very rare. The problem of breast cancer seems to be getting worse according to these statistics.
- **Web site #3: Susan G. Komen for the Cure**
- **Web address:** <http://ww5.komen.org/BreastCancer/Statistics.html>
- **Summary of the statistics:**
 - Susan G. Komen for the Cure is an organization that strives to provide information on breast cancer. Statistics from this Web site show that in the past 35 years, the rate of death due to breast cancer has decreased in white women. The number decreased from 32 to 23 per every 100,000 white women. Conversely, the rate of death due to breast cancer has increased in black women. The number increased from 30 to 33 per every 100,000 black women. It is estimated that about 207,090 new cases of breast cancer will be diagnosed in women the United States this year (2010). This is shocking in comparison to the 107 diagnoses per every

100,000 women in the United States in the year 1975. These statistics tell us that breast cancer is an increasing problem for women in the United States.

Section 4: Consumer Information

- **Web site #1 Name:** FDA U.S. Food and Drug Administration
- **Web address:** <http://www.fda.gov/Food/LabelingNutrition/LabelClaims/QualifiedHealthClaims/ucm072774.htm>
- **Summary of the information:**
 - The FDA examined the health claim that consuming green tea can reduce the risk of breast cancer. Green tea is brewed by infusing hot water with *Camellia sinensis* natural (unfermented) tea leaves. The FDA considers green tea to be the food substance under examination in the health claim. The health claim proposed that, “Daily consumption of 40 ounces of typical green tea containing 710 µg/ml of natural (-)-epigallocatechingallate (EGCG) may reduce the risk of certain forms of cancer.” In other words, it has been suggested that one should drink five cups of green tea per day in order to reduce his or her risk of breast cancer. However, this claim only involves reducing the risk of a cancer in people who do not already have the disease – it is not suggested that drinking green tea will help cure cancer. The results from two studies did not show a relationship between drinking green tea and a reduction in the risk of breast cancer in women. However, one other study evaluated green tea intake and breast cancer risk in female Asian Americans living in Southern California. This study showed that drinking green tea may, in fact, reduce the risk. Nevertheless, the FDA made clear that the scientific evidence for this relationship is not conclusive.

- **Web site #2 Name:** Mayo Clinic
- **Web address:** <http://www.mayoclinic.com/health/male-breast-cancer/DS00661/DSECTION=risk-factors>
- **Summary of the information:**
 - Mayo Clinic is a non-profit medical organization that serves to be a reliable source of health information for the public. Mayo Clinic gave information on breast cancer in men, which is generally overlooked when researching the topic of breast cancer. This Web page listed the risk factors of male breast cancer; some of the risk factors are the same for both men and women. Older age is one of these risk factors; men who are diagnosed with breast cancer are typically between the ages of 60 and 70. Drinking excessive, or large, amounts of alcohol puts men at a greater risk for acquiring the disease. Since breast cancer is most common in women, it makes sense that men who are exposed to large amounts of estrogen are at an increased risk for breast cancer. This exposure could result from taking estrogen-related drugs as part of a sex change procedure or prostate-cancer treatment. In addition, obesity is a risk factor because increased fat cells can convert androgens to estrogen. Just as in women, a family history of breast cancer increased a male’s risk. A risk factor unique to men is Klinefelter’s syndrome. This syndrome is a genetic abnormality that causes the affected male to produce

lower levels of male hormones and higher levels of female hormones. Liver disease is another risk factor that can have the same effect as Klinefelter's syndrome. Men who have been exposed to radiation also have an increased risk of developing breast cancer.

- **Web site #3 Name: National Cancer Institute**
- **Web address: <http://www.cancer.gov/cancertopics/factsheet/Risk/oral-contraceptives>**
 - **I found this from the National Institutes of Health Web site**
- **Summary of the information:**
 - The National Cancer Institute reports that oral contraceptives have an effect on the risk of developing breast cancer. This is because the risk of developing breast cancer is often related to levels of female hormones; oral contraceptives affect these hormone levels. It was found that women who currently take, or who have recently taken, oral contraceptives are at an increased risk for developing breast cancer. This risk was even greater for women who had started taking birth control pills during their teenage years. However, it was found that if a woman terminates her use of oral contraceptives, within ten years her risk level will return to average. Yet, women who were diagnosed with breast cancer after ten years of non-use of oral contraceptives had less advanced cancer than women who had never taken oral contraceptives. Risk levels associated with oral contraceptive use were reported to be about equal for both white and black women. The risk level was highest for young women who used oral contraceptives within five years prior to diagnosis.

Section 5: Solutions to the Problem (or Issue)

- **Web site #1 Name: The Get in Touch Foundation**
- **Web address: <http://getintouchfoundation.org/whyweare.php>**
- **Summary of the information:**
 - The Get in Touch Foundation is a non-profit organization that serves to inform girls about breast cancer. Their mission is “to encourage gals of all ages to ‘Get In Touch’ with their bodies, information, and each other in our crusade against breast cancer.” The founder of The Get in Touch Foundation is a breast cancer survivor; she started the organization because she has daughters that she wants to protect. The foundation is addressing the problem of breast cancer by going to schools around the United States to share their stories and spread information about how girls should start protecting themselves early. This program involves distributing “the daisy wheel” and teaching girls how to use it. This “daisy wheel” is an easy-to-use method to instruct girls how to do breast self-examinations. The wheel has been distributed to 41 states and is given out to girls in grades 5 through 12. They focus on reaching out to girls from ages 8 to 18. They recommend that girls should perform self-examinations as a part of their daily routine – just like brushing their teeth. They recommend starting breast self-examinations at a young age because it is always better to detect a possible problem early so that treatment can be started as soon as possible. They have also

created programs to support girls and women at different stages of “survivorship.” In addition, they have created programs to support men who are close with a girl or woman who is going through the fight against breast cancer. The Get in Touch Foundation advocates, provides services, has published a Web site, and is non-profit.

- **Web site #2 Name: The Breast Cancer Society Inc.**
- **Web address: <http://www.breastcancersociety.org/aboutus/whatmakestbcsdifferent/>**
- **Summary of the information:**
 - The Breast Cancer Society is a national breast cancer charity. “The guiding mission of The Breast Cancer Society, Inc. (TBCS) is to provide relief to those who suffer from the effects of breast cancer now, as well as to work cooperatively with and give support to other personnel, individuals and organizations that share in the goal of helping cancer patients, the critically ill, and the impoverished.” This charity addresses the problem of breast cancer by providing aid to other organizations that support the cause of breast cancer research and education. However, it focuses on providing financial aid and “direct assistance” to women in the United States who are currently undergoing treatment for the disease. The Breast Cancer Society is focused on helping those fighting the battle of breast cancer today, but still supports research to help those in the future. The Breast Cancer Society has also created a program that obtains medicines, care items, and medical supplies. It then sends these items around the world to their partner programs in developing countries. Their partners include: “non-profit hospitals, clinics, missions, and rural physicians who offer the primary medical services for women in their areas who develop breast cancer.” The Breast Cancer Society provides aid to those already working on the problem, has published a Web site as a means of communication with Internet users, and gathers funding to address the problem of breast cancer.

- **Web site #3 Name: Breast Cancer Alliance**
- **Web address: <http://www.breastcanceralliance.org/about-us/>**
- **Summary of the information:**
 - The Breast Cancer Alliance is the fourth largest non-profit organization for breast cancer research in the United States; it provides private funds for this research. “The mission of the Breast Cancer Alliance is to fund innovative breast cancer research and to promote breast health through education and outreach.” The Breast Cancer Alliance was founded by a woman who has since past away from breast cancer. She founded the alliance on the foundation of supporting early detection, health education, and research regarding breast cancer. The Breast Cancer Alliance creates fundraising programs and major charitable events to raise money for their objectives. The alliance makes decision on giving grants to certain research efforts or other breast cancer foundations. “In an average year, 75% of [their] grant funds go to research and 25% to early detection programs in the communities [they] serve.” They also publish a quarterly newsletter and update their Web site in order to help educate women about research, treatment, and prevention for breast cancer. They also support

programs that provide free mammograms and other related services. The Breast Cancer Alliance is stationed in Greenwich, Connecticut.

Conclusions

I have learned a great deal about breast cancer from developing this fact sheet. I never really thought that men could be affected by breast cancer, but by researching statistics I have learned that men, as well as women, can actually die from breast cancer. I never realized how important it is for girls my age to be educated about breast cancer. Many women who are diagnosed with breast cancer are in my age group, or only about ten years older. I will definitely be more conscious now about doing self-examinations. I hope that my fact sheet presentation can send this message to the girls in my class as well. I learned that oral contraceptives are a risk factor for breast cancer. I know that many young women my age take birth control pills, so I plan to inform the girls in my class about that as well. Just about every Web site indicated that family history is major risk factor for breast cancer, so I have now decided to get a mammogram at an earlier age than most women do. I always knew that there are a lot of organizations that support the cause of breast cancer, but it was shocking to see how many there really are. It is really shocking to see how many people are personally affected by breast cancer and want to make a difference. I also learned about the technical biology of cancer – what it is, and how it forms and spreads. Many of the statistics focused on how race and ethnicity relate to breast cancer. However, I think it is really important for people of all races to be aware of and educated on breast cancer. It's troubling to me that there is no cure for breast cancer, but learning about it by doing this fact sheet has at least educated me on ways to help prevent it.

Five-minute Twitter Brief

During my five-minute Twitter Brief, I plan to share some of the facts that I learned about breast cancer. I will focus on the risk factors and preventative recommendations. I want to share the Web site link that I found for the “Get in Touch Foundation” because I think all the girls in the class should learn about the “daisy wheel” to do self-examinations. I will post my tweet before my presentation. My tweet will be about how oral contraceptives relate to the development of breast cancer.

PICTURE CITATIONS

<http://www.bigelowteablog.com/2008/10/01/october-is-breast-cancer-awareness-month/>

<http://womenshealth.gov/breast-cancer/>

Back to Betty C. Jung's Web site	http://www.bettycjung.net
Back to Fact Sheet Directory	http://www.bettycjung.net/Pch202fs.htm